centre, where some wild cotton was added, and also some dried particles of decayed wood. By striking two pieces of iron pyrites over this, the sparks ignited the finer parts. He supplied these good people with some ordinary matches, also with some old-fashioned water-tight tinder boxes filled with burnt rags, flint and steel, and brimstone matches, used still very much by the Hudson's Bay Company's Voyageurs whilst travelling either in winter or summer, both to light their pipes or a fire. The other form of fire-producer obtained on Wollaston Land, and consisted of a piece of very much decayed willow or poplar eight inches long and two inches in diameter. The drill in this apparatus is fourteen inches long, five-eighths of an inch in diameter at one end, a quarter of an inch at the other or upper end, which fits into a stone socket, fitted into a wooden mouth-piece to make it more easily held in the teeth—a strong thong of stout seal skin completes the apparatus. In use, the piece of two-inch diameter is held between the knees, the mouth-piece is firmly held in the teeth, the thickest end of the drill placed in one of the grooves, if it is a new piece of wood not previously used, or if previously used into a hole already worn out; then the small end of the drill is placed in the socket of the mouth, and the drill is set in rapid motion by the skin thong which has been placed round it, and worked with both hands.

Mr. E. BIDWELL exhibited and described several fire-syringes in illustration of Mr. Skertchly's descriptions.

Mr. R. PRITCHETT sent for exhibition some full-sized drawings of fire syringes which he had made during the last voyage of the late Lady Brassey in the *Sunbeam*.

The Secretary read the following Paper:—

On a SAFE CONCLUSION *concerning the* ORIGIN *of the* ESKIMO, *which can be drawn from the designation of certain objects in their language.* By Dr. H. RINK, of Copenhagen.

IN an earlier paper in the Anthropological Institute's Journal,[1] I have endeavoured to give a summary of the Eskimo language and the mutual relation of its dialects in general. In prosecuting the same linguistic study I have been led to a conclusion concerning the different theories on the origin of the Eskimo which I suppose may at least serve to restrict the number of possibilities that this obscure field of research offers

[1] "Journ. Anthrop. Inst.," vol. xv, No. 2, 1885, p. 239.

to our imagination, and in this way to simplify the investigation. In regard to the cradle of the Eskimo race we have before all to discern between their original home and the country in which they have developed their present culture, which is characterised by their capability of procuring means of subsistence in Arctic Regions where no other nation can live. We will confine ourselves to the latter, the *Eskimo culture-home*, and our principal scope will be that of pointing out one or two necessary conditions for guessing the site of this home. It is well known that the regions at our disposal for these considerations are of enormous extent, comprising the continental seaboard and the islands of America beyond a line varying between 56° and 60° N.L., including Greenland and the extreme north-eastern corner of Siberia. This territory was occupied by the Eskimo as its only inhabitants before their modern contact with the European race. We divide them into Eastern and Western, separated by Cape Bathurst in about the middle of the coast-line from Hudson's Bay to Bering's Strait. The Eastern Eskimo comprise the Labradorians, the Greenlanders, and the Central Tribes; the Western embrace the inhabitants of the shores about the estuaries of the Mackenzie River, and those of the extreme West including the Asiatic Eskimo. However, with regard to the question as to what part of the coast the first Eskimo settlers arrived, Greenland and the most northern islands must of course be exempted. Consequently the Eskimo culture-home has to be sought for between the extreme south-eastern point of Labrador and somewhere on the Siberian coast in the vicinity of Bering's Strait. The conditions, above alluded to, that have to be observed in prosecuting our research upon this extensive line, are in the first place, *that only one such culture-home can have existed*, and secondly, *that even this one must have had a relatively small extent*. It must be considered impossible that the settlers should have arrived in two or more detachments at the Arctic or sub-Arctic sea-coast, and there developed their Eskimo culture independently of each other. Certainly there are several reasons for believing that after the dispersion of the first settlers had begun, new emigrants from the interior joined these pioneers even in places distant from the culture-home, but in this case they wholly adopted the habits of the latter, and in doing so became amalgamated with them. As to the "relatively small extent" of the "home," this has to be taken as small, judged by an Eskimo scale of distances between their establishments: the settlers must have been able to maintain a certain degree of mutual intercourse.

The extraordinary uniformity alone of the utensils, instruments, and weapons common to all the widely spread tribes, is

suggestive of one common origin. However, it might be objected that this uniformity was a natural consequence of the causes that have given rise to the inventions being almost the same everywhere, leaving but little chance for variation. I therefore resorted to the testimonies preserved in the language. In settling on the border of the ocean and adopting an altered mode of life *the new comers must have been obliged to form a number of new words* designating partly the natural objects, especially the animals which for the first time they met with here, partly the contrivances which the struggle for existence had driven them to produce. Scanning the whole series of such objects there could be no doubt as to which of them should be preferred as the most important. It is well known that seals and whales afford almost all the means by which the Eskimo are able to secure themselves a comfortable life, and that their art of catching them has attracted the admiration even of the civilised world.

The new words which had to be created could be formed partly out of the already existing stem-words by derivation, partly by inventing new radicals. It is evident that in our investigation here by far the most stress must be laid on the latter. A selection of the most important words of the said kind was easily extracted from the Greenland and the Labrador dictionaries, but the question was how to find the counterparts in the much poorer vocabularies of the other dialects. The problem was that of instituting a comparison between the words by which the same objects are designated in the dialects east and west of Cape Bathurst, ascertaining how far identity or similarity could be discovered. I picked out 36 words relating to seals and whales and their capture. They were identical in the language east and west of Cape Bathurst, and are with few exceptions found in the vocabularies even of the extreme west; about two-thirds of them are classed as stem-words in the Greenland dictionary. They are as follows:—

1. The spotted seal, *qassigiaq* (*Phoca vitulina*).
2. The fiord seal, *natseq* (*Phoca hispida*).
   do. old male, *tiggaq* „
3. The thong seal, *ugssuk* (*Phoca barbata*).
4. Saddleback seal, *qairolik* (*Phoca grœnlandica*).
5. Walrus, *âveq*.
6. Balæna mysticetus, *arfeq*.
7. Beluga leucas, *qilaluvaq* (white whale).
8. Narwhal, *tûgâlik*.
9. Swordfish, *ârdluk* (*Orca gladiator*).
10. Blubber, *orssoq*.

11. Walrus and narwhal tusk, *tûgâq.*
12. Whalebone, *sorqaq.*
13. Edible whaleskin, *mâtak.*
14. A seal's breathing-hole in the ice, *agdlo.*
15. The open skinboat ("Women's boat"), *umiaq.*
16. One-bladed paddle, *angût.*
17. Mast, *náparut.*
18. Sail, *tingerdlaut.*
19. Kayak, *qajaq.*
20. do. side lath, *siârneq, apúmak.*
21. do. rib, *tigpik*
22. do. prow, *niutak.*
23. do. cross piece, *masik.*
24. do. paddle double-bladed, *pautik.*
25. Shaft of the large harpoon, also the harpoon itself, *unâq.*
26. Flexible part of this shaft, *igimaq.*
27. A bone-cover on the shaft, *qâteq.*
28. The loose harpoon-point, *tûkaq.*
29. The action of throwing and hitting with the harpoon, *nauligpoq.*
30. Throwing stick, *norssaq.*
31. A peg for finger-rest on the harpoon, *tikâgut.*
32. Capturing line, *aleq.*
33. do. bladder, *avataq.*
34. Spear or knife for stabbing, *qapût.*
35. Bladder arrow, *agdliqaq.*
36. Bird arrow, *nueq, nugfit.*

This list indeed exhibits a more complete selection of the most important words concerning the marine mammalia and their capture than might have been expected from the scanty linguistic resources of the West. If now, instead of some among them that already may have been used in an earlier home (*e.g.*, Nos. 16, 22, 34), we would add objects from other domains, but also more or less closely bound up with the idea of a sea-coast, as *e.g.*, salt water, ebb and flood, the polar bear, sea birds, and other animals, similarity or absolute identity might be pointed out in the same way. But the above selection, I suppose, will suffice for our present considerations; its number of words widely exceeds what might be necessary for proving *a common origin, and excluding the possibility of an accidental likeness* or an invention by settlers on the sea-coast without sufficient opportunity of exchanging their ideas.

From this consideration of what may be stated with certainty, we will pass to what furthermore may be concluded with more

or less probability. In the paper quoted above, I have suggested that the culture-home in question occupied the mouth of a river or of several rivers, and that in the course of time it would receive settlers from the interior, while on the other hand emigrants successively spread from this home over the Arctic regions. In a small volume on "The Eskimo Tribes," published in 1887,[1] and chiefly dealing with linguistic questions, I have tried to show how the dispersion of the Eskimo seems to have continued, supposing Alaska to have been the culture-home. The track of the wanderers appears to be indicated by the following facts still to be observed in the state of the present inhabitants, going from West to East:—

1. The successive completion of the most valuable invention, the kayak with its implements and the art of using them, especially the double-bladed paddle, the great harpoon with the hunting bladder, the kayak-clothes, and the hunter's capability of rising to the surface again in case of being overturned.

2. The gradual change of several customs in the same way in proceeding from South and West, to North and East, namely, the use of labrets or lip ornaments ceasing at the Mackenzie River, the use of masks at festivals ceasing in Baffin's Land, the women's hair dressing gradually changing between Point Barrow and Baffin's Bay.

3. The construction of buildings and at the same time in some degree the social organisation and religious customs. The gradual, but still only slight change in all these features of the state of culture seems to go side by side with the increasing natural difficulties and the stupefying effect of isolation in removing from the original home.

If in this way we maintain the supposition of the Eskimo culture having been propagated from the extreme West to the East, the number of the wanderers who brought it may nevertheless have become augmented by Easterly Tribes. As above alluded to, inland people of the Eskimo race, yielding to the pressure of hostile Indians and retiring to the North, may have met and associated with immigrants of their own nation, who already had reached the central regions beyond Cape Bathurst. But in this case the former must have learned and adopted the new culture from the latter. This suggestion even may serve to explain several differences between East and West, and the relatively large number of emigrants to Greenland.

Now there still remains a theory to be touched on which, moreover, must be called the oldest and perhaps still the most popular one, namely, that of an emigration from Asia. This

[1] "Meddelelser om Grönland," vol. xi.

suggestion is supported by several, certainly somewhat isolated, but nevertheless striking similarities between Asiatic and American aborigines. But there is at any rate one question also in this case previously to be settled, and this is again that of the probable situation of the culture-home. Considering the manner in which Bering's Strait can be crossed and the means of securing subsistence for settlers on its shores, an emigration can hardly have been effected excepting by perfectly developed and fairly equipped Eskimo, and consequently the cradle of their culture in this case must have been situated in Asia. Whether this may be judged possible or even probable, must depend on more comprehensive researches than have hitherto been made concerning the archæology and geography of North-Eastern Siberia and the traditions of the inhabitants thereabout.

Since my last paper in 1885 my sources of information have been added to by the following eminent explorers :—

A. Jacobsen ; his "Journey in Alaska, 1881–83," edited by A. Woldt, Leipzig, 1884. Jacobsen also furnished me with much information and a written vocabulary from North and South Alaska, and quite lately I had the opportunity of inspecting under his guidance the admirable ethnological collection from Alaska, procured by him for the "Museum für Volkskunde" at Berlin. At my request he also gave me a list of Eskimo words belonging to those especially referred to before.

P. H. Ray ; his "Report on the Point Barrow Expedition," Washington, 1885. This work contains an excellent supplement to the earlier vocabularies from Alaska.

J. Murdoch, member of the same Point Barrow Expedition, has suggested a theory on the migrations of the Eskimo deviating from mine ("American Anthropologist," April, 1885), but he has afforded me valuable information by pamphlets and reprints as well as by letters.

F. Boas, the well-known explorer of the Central Regions ; his principal work, "The Central Eskimo," Washington, 1889. I have had the opportunity of co-operation and of personally conversing with him, and am indebted to him for very extensive information by letter. He agrees with me in asserting ("Science," December 2, 1887) that the Eskimo reached the ice-covered ocean in one body.

G. Holm, our well-known explorer of the hitherto unknown part of Danish East Greenland, his admirable work on the "Ethnology of East Greenland" ("Meddelelser om Grönland"), besides much co-operation and ready assistance.

Discussion.

Dr. J. Rae said he had listened with keen attention to the admirable paper of that most distinguished anthropologist, Dr. Rink—certainly the highest living authority on the Eskimos of Greenland—but however praiseworthy the paper was, the speaker could find nothing in it to induce him to alter in the slightest degree the opinions he had formed regarding the original home of or route followed by the Eskimos in their migrations. When with the Eskimos he generally had the advantage of an excellent interpreter. Through him he learnt that the tradition of the "Innuit" was that they had come from the West, "the setting sun," and that in doing so they crossed water—supposed Behring Strait. Everything in the Eskimo's appearance leads to the supposition that originally he was an Asiatic; he is at least wholly un-American. The ruined yourts, so numerous on the shores of North-Eastern Siberia, were considered by the speaker to have been their homes, as almost exactly similar homes are now used by the natives of Northern Greenland, those of South Greenland having conformed to the Danish customs. The Eskimos are readily adaptive; thus when they came to America they found plenty of drift wood, and therefore built their winter houses of it, but not using the wood for fuel, but the stone lamp and oil as of old. They have also used the oo-miak, or woman's large skin boat. These—both boats and timber house—were in use for 600 or 700 miles between Behring Straits and the Mackenzie River. But from this point eastward all this was changed, because there was little or no wood, and few or no walrus or whales, so snow huts, the warmest of any shelters where there was no abundance of oil for fuel, were constructed. Also no oo-miaks were required or used, because the Eskimos lived chiefly on land animals—reindeer and musk cattle principally. This state of things was maintained for fully three thousand miles to Hudson's Bay. When the Eskimos reach Greenland, however, and find themselves as formerly among the large marine animals, as when near Behring Strait, they not only resume their old form of half-underground house, of stone, earth, and bones (so well described by Dr. Kane), but they also build oo-miaks similar to those at Behring Strait. Dr. Rae said he had the Chairman's authority that the form of head of the Western Eskimos differs extremely from that to the east—the former being brachy-cephalic, the latter the very reverse. He had also carefully studied Dr. Simpson's excellent description of the natives about Behring Strait, and could in no way reconcile it with his own observations of the Eskimos eastward of the Coppermine River. Dr. Rae could not help thinking that the so-called Eskimos of Behring Strait were crossed with some other race—Indians—which would tend to produce the form of head they have. A cross with the Indians to the east is most unlikely to have taken place, as the two "*nations*" have always been and still are at enmity with each other.